

**Curriculum Overview: A-Level P.E. Year 12 - Applied Anatomy & Physiology and Biomechanics**

Term / Length of Unit	Outline	Assessment	Home Learning	Resources	Knowledge/Skills End Points	Reading/Literacy
Autumn 1	Intro to course The Respiratory System 3.1.1.3 & The Cardiovascular System 3.1.1.2 (Part 1)	Progress: Home works, exam questions, class work.  Final: EOU Test 1	Continuous ranging from exam Q's, mind maps, topic on a page etc.  1 piece to be set per lesson	Full SOL and resources in folder numbered based on lessons.  Respiratory System: Folder 1-7	<p><b>Knowledge:</b> The CO<sub>2</sub> Pathway To be able to identify different lung volumes. To understand the process of gaseous exchange. To be able to define diffusion and partial pressure and its affect at the alveoli and body cells. To understand the processes of external respiration and internal respiration. To understand the roles of the receptors in the regulation of ventilation. To explain the impact of a poor lifestyle on the respiratory system.</p> <p>To understand how the heart works and the conduction system. To be able to explain the cardiac cycle and changes with exercise. To understand the neural control of heart rate &amp; the long term training adaptations to the cardiac system.</p> <p><b>Skills:</b> Understanding of questions and how to structure and answer exam style questions. Use of 'scripts' to scaffold exam responses</p>	<p>Guided reading Use of interpretations / contemporary evidence Core definitions of command words</p> <p><b>Subject Specific Words:</b> Chemoreceptor Haemoglobin Myoglobin Dissociation curve Sympathetic Parasympathetic Cardiovascular Drift Expiratory Inspiratory Ventilation</p> <p><b>Academic Vocabulary:</b></p> <p><b>Analyse</b> <b>Apply</b> <b>Explain</b> <b>Evaluate</b> <b>Describe</b> <b>Define</b> <b>Compare</b> <b>Contrast</b> <b>Identify</b> <b>Justify</b></p>
Autumn 2	The Cardiovascular System 3.1.1.2 (Part 2) &	Progress: Home works, exam questions, class work.	Continuous ranging from exam Q's, mind maps, topic on a page etc.	Full SOL and resources in folder numbered	<p><b>Knowledge:</b> To understand the venous return mechanism and what is meant by the term vascular shunt.</p>	<p>Guided reading Use of interpretations / contemporary evidence</p>

	<p>The Neuromuscular System 3.1.1.4 &amp; Energy Systems 3.1.1.6</p>	<p>Final: EOU Test 2 &amp; 3</p>	<p>1 piece to be set per lesson</p>	<p>based on lessons.</p> <p>Cardiovascular System: Folder 8 – 16</p> <p>Neuromuscular System: Folder 17-19</p> <p>Energy Systems: Energy Systems Folder 1-6</p>	<p>To be able to describe blood pressure and blood velocity and how these change in response to exercise.</p> <p>To understand the term Aterio-Venous difference.</p> <p>To understanding the role of haemoglobin and oxygen dissociation curve and the factor affect the shifts.</p> <p>To be able to describe the terms ‘Starling’s law of the heart’ and ‘Cardiovascular drift’</p> <p>To describe the characteristics of slow twitch and fast twitch muscle fibres.</p> <p>To identify the role of the nervous system in muscle contraction.</p> <p>To understand the role of proprioceptors in the PNF stretching process.</p> <p>To be able to explain motor unit recruitment and muscle innervation.</p> <p>To describe the energy transfer process during high and low intensity exercise.</p> <p>To be able to explain the factors affecting VO<sub>2</sub> max.</p> <p>To understand the different measurements of energy expenditure.</p> <p>To evaluate the impact of specialist training methods on the energy system used.</p> <p><b>Skills:</b></p>	<p>Core definitions of command words</p> <p><b><u>Subject Specific Words:</u></b></p> <p>Muscle Fibres Twitch Glycolytic Aerobic Anaerobic Oxidative Muscle Spindles Golgi Tendon Organs Spatial Summation Wave Summation Tetanic</p>
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					Understanding of questions and how to structure and answer exam style questions. Use of 'scripts' to scaffold exam responses	
Spring 1	The Musculo-skeletal System 3.1.1.5 & Diet/Nutrition 3.1.4.1 & Preparation and Training Methods 3.1.4.2	Progress: Home works, exam questions, class work.  Final: EOU Test 4, 5 & 6	Continuous ranging from exam Q's, mind maps, topic on a page etc.  1 piece to be set per lesson	Full SOL and resources in folder numbered based on lessons.  Musculo-skeletal System: Folder 20-24  Diet/Nutrition: Folder 25-27  Preparation & Training Methods: Folder 28-31	<b>Knowledge:</b> To understand the different types of joint, articulating bones and main agonists and antagonists in the body. To be able to explain the different types of muscular contractions. To understand the axes and planes of the body.  To describe the components of a balanced diet. To explain how energy balance might change dependant on sport or training requirements. To understand the positive and negative effects of dietary supplements including, caffeine, creatine, glycogen loading and sodium bicarbonate.  <b>Skills:</b> Understanding of questions and how to structure and answer exam style questions. Use of 'scripts' to scaffold exam responses	Guided reading Use of interpretations / contemporary evidence Core definitions of command words  <b>Subject Specific Words:</b>  Carbohydrate Cholesterol Hydration Creatine Sodium Bicarbonate Supplements Caffeine Glycogen loading
Spring 2	NEA Analysis of performance Identification of weakness Cause(s) of Weakness Corrective Measure(s)	Progress: Coursework Drafts  Final: Completed NEA document	Use of theory work to supplement coursework creation	Exemplar documents	<b>Knowledge:</b> AO1: Demonstrate knowledge and understanding of the factors that underpin performance and involvement in physical activity and sport.	Guided reading Use of interpretations / contemporary evidence Core definitions of command words

					<p>AO2: Apply knowledge and understanding of the factors that underpin performance and involvement in physical activity and sport.</p> <p>AO3: Analyse and evaluate the factors that underpin performance and involvement in physical activity and sport.</p> <p><b>Skills:</b> AO4: Demonstrate and apply relevant skills and techniques in physical activity and sport. Analyse and evaluate performance.</p>	<p><b>Subject Specific Words:</b></p> <p>Performance Coach Tactics Strategies</p> <p><b>Academic Vocabulary:</b></p> <p>Analyse Apply Explain Evaluate Describe Define Compare Contrast Identify Justify</p>
Summer 1	Biomechanics 3.1.5 & Revision	<p>Progress: Home works, exam questions, class work.</p> <p>Final: EOU Test 7 Revision Lessons 1-5</p>	<p>Continuous ranging from exam Q's, mind maps, topic on a page etc.</p> <p>1 piece to be set per lesson</p>	<p>Full SOL and resources in folder numbered based on lessons.</p> <p>Biomechanics: Folder 32 – 37</p> <p>Revision: Folder 38-40</p>	<p><b>Knowledge:</b> To understand Newton's Laws of Motion. To be able to describe measurements used in a linear motion. To be able to describe centre of mass and stability and suggest factors affecting both. To understand the 3 lever class systems. To be able to describe levers functioning and related movements. To be able to explain the term mechanical advantage.</p> <p><b>Skills:</b> Understanding of questions and how to structure and answer exam style questions.</p>	<p>Guided reading Use of interpretations / contemporary evidence Core definitions of command words</p> <p><b>Subject Specific Words:</b></p> <p>Inertia Acceleration Reaction Force Vector Linear Displacement Velocity Momentum Mechanical Advantage Fulcrum</p>

					Use of 'scripts' to scaffold exam responses	<b>Academic Vocabulary:</b> Analyse Apply Explain Evaluate Describe Define Compare Contrast Identify Justify
Summer 2	PPE & Coursework Redrafts for Year 13	REVISION	REVISION	REVISION	REVISION	